

**PROJECT DESCRIPTION**

**GENERAL**

THIS PROJECT INVOLVES THE INSTALLATION OF A NEW TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF CROMWELL BRIDGE ROAD AND I-695 RAMP (COMMERCIAL ACCESS) IN BALTIMORE COUNTY. CROMWELL BRIDGE ROAD IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

**INTERSECTION OPERATION**

THE INTERSECTION WILL OPERATE IN A NEMA SIX-PHASE, FULL-TRAFFIC-ACTUATED MODE WITH THE CROMWELL BRIDGE ROAD APPROACHES OPERATING CONCURRENTLY AND THE I-695 RAMP (COMMERCIAL ACCESS) APPROACHES OPERATING CONCURRENTLY.

EXCLUSIVE/PERMISSIVE LEFT-TURN PHASING IS PROVIDED FOR EASTBOUND AND WESTBOUND CROMWELL BRIDGE ROAD APPROACHES. A N.I.C. SYSTEM WILL BE INCORPORATED ON CROMWELL BRIDGE ROAD TO INTERCONNECT TO THE I-695 SIGNAL TO THE NORTH.

**CONTROLLER REQUIREMENTS**

INSTALL A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH TWO (3) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, INTERSECTION MONITOR WITH BATTERY BACKUP FOR PHONE DROP AND ASSOCIATED HARNESSES HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET.

**PHONE DROP**

UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL NOTIFY MR. ROBERT SNYDER OF SHA AT (410) 787-7635 TO ARRANGE FOR THE PHONE LINE INSTALLATION. THE CONTRACTOR IS TO PROVIDE MR. SNYDER THE NEAREST STREET ADDRESS, ZIP CODE, AND PHONE NUMBER.

**MAINTENANCE OF TRAFFIC**

THE FOLLOWING TRAFFIC CONTROL STANDARDS SHALL BE REFERENCED FOR THE PROJECT.

- STANDARD NO. MD-104.00 - 104.00-30 STANDARD NO. MD-104.40-01 (INTERSECTION FAR-LEFT LANE CLOSURE)
- STANDARD NO. MD-104.37-01 (LEFT LANE CLOSURE)
- STANDARD NO. MD-104.38-01 (RIGHT LANE CLOSURE) STANDARD NO. MD-104.32-01 (INTERSECTION FLAGGING OPERATION)
- STANDARD NO. MD-104.41-01 (INTERSECTION FAR-RIGHT LANE CLOSURE)
- STANDARD NO. MD-104.43-01 (SHOULDER WORK)

**PROJECT CONTACTS**

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

MR. RANDALL SCOTT  
ASSISTANT DISTRICT ENGINEER - TRAFFIC  
PHONE: (410) 321-2780

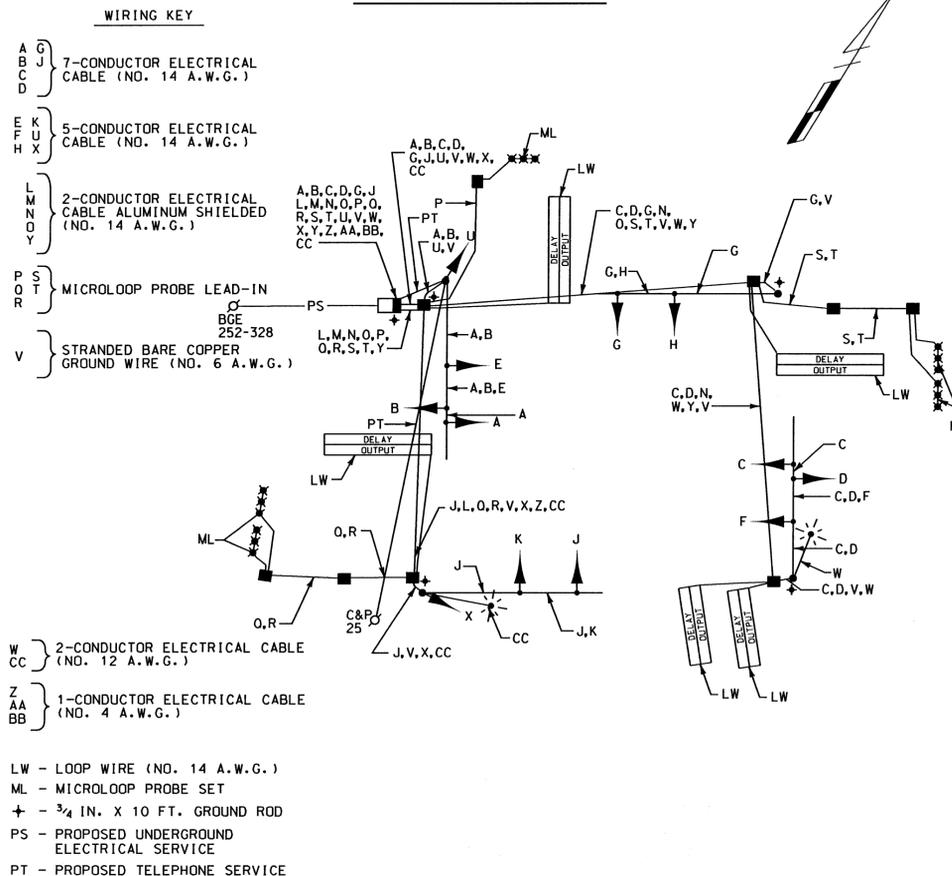
MS. SUENETTE POPE  
DISTRICT UTILITY ENGINEER  
PHONE: (410) 321-2841

MR. STEVE MARCISZEWSKI  
ASSISTANT DISTRICT ENGINEER - MAINTENANCE  
PHONE: (410) 321-2761

MR. RICHARD L. DAFF, SR.  
CHIEF, TRAFFIC OPERATIONS DIVISION  
PHONE: (410) 787-7630

BGE WMS NUMBER - 1025309

**WIRING DIAGRAM**



**EQUIPMENT LIST "A"**

A. EQUIPMENT TO BE SUPPLIED BY THE SHA

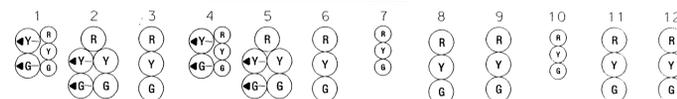
ITEM NO.	QUANTITY	DESCRIPTION
9000	1 EACH	21 FOOT STEEL POLE WITH 44 FT. SINGLE MAST ARM
9016	3 EACH	FOUR-CHANNEL, TIME-DELAY-OUTPUT, LOOP DETECTOR AMPLIFIER
9018	1 EACH	27 FOOT STEEL POLE WITH 40 FT. SINGLE MAST ARM
9021	1 EACH	21 FOOT STEEL POLE WITH 50 FT. SINGLE MAST ARM
9022	1 EACH	27 FOOT STEEL POLE WITH 50 FT. SINGLE MAST ARM
9044	1 EACH	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED CONTROLLER WITH INTERSECTION MONITOR HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET
9571	131 S.F.	SHEET ALUMINUM SIGNS TO CONSIST OF : - 2 EACH R10-12 SIGN (36 IN. x 42 IN.) - MAST ARM MOUNT - 4 EACH W3-3 SIGN (36 IN. x 36 IN.) WITH "NEW" PANEL (30 IN. X 30 IN.) AND FLAG - GROUND MOUNT - 2 EACH D-3(1) SIGN (VARIABLE x 16 IN.) DUAL FACED - MAST ARM MOUNT - 1 EACH W9-1(R) SIGN (36 IN. x 36 IN.) AND "BEYOND SIGNAL" SIGN (30 IN. x 24 IN.) GROUND MOUNT - 1 EACH W9-2(4) SIGN (42 IN. x 30 IN.) - MAST ARM MOUNT

**EQUIPMENT LIST "C"**

C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA

ALL REMOVED SIGNAL MATERIALS SHALL BECOME PROPERTY OF THE CONTRACTOR

**PHASE CHART**



	1	2	3	4	5	6	7	8	9	10	11	12
PHASE 1 + 5	R	R	R	R	R	R	R	R	R	R	R	R
1 + 5 CHANGE	PHASE 1 + 5 MAY CHANGE TO PHASE 1 + 6, PHASE 2 + 5 OR PHASE 2 + 6											
PHASE 1 + 6	G	G	G	R	R	R	R	R	R	R	R	R
1 + 6 CHANGE	G	G	G	R	R	R	R	R	R	R	R	R
PHASE 2 + 5	R	R	R	G	G	G	R	R	R	R	R	R
2 + 5 CHANGE	R	R	R	G	G	G	R	R	R	R	R	R
PHASE 2 + 6	G	G	G	G	G	G	R	R	R	R	R	R
2 + 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R
PHASE 4 + 8	R	R	R	R	R	R	G	G	G	G	G	G
4 + 8 CHANGE	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R

**EQUIPMENT LIST "B"**

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

ITEM NO.	QUANTITY	DESCRIPTION
1001	1 EACH	MAINTENANCE OF TRAFFIC
2002	5 C.Y.	TEST PIT EXCAVATION
5001	1 EACH	HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING ARROW
5005	150 L.F.	24 INCH WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING
5006	250 L.F.	5 INCH WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING
5007	400 L.F.	5 INCH YELLOW HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING
5008	450 L.F.	REMOVAL OF EXISTING PAVEMENT LINE MARKINGS - ANY WIDTH
6004	60 S.F.	4 IN. CONCRETE SIDEWALK
8011	32 EACH	FURNISH AND INSTALL 12 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8013	2 EACH	FURNISH AND INSTALL 15 FOOT LIGHTING BRACKET ARM FOR TRAFFIC SIGNAL STRUCTURE
8014	1 EACH	FURNISH AND INSTALL 250 WATT HPS LUMINAIRE WITH PHOTOCCELL
8015	2 EACH	FURNISH AND INSTALL 3 IN. WEATHERHEAD
8019	12 EACH	FURNISH AND INSTALL 8 IN. VEHICULAR TRAFFIC SIGNAL HEAD SECTION
8020	1 EACH	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT FOR SIGNAL
8029	5 EACH	FURNISH AND INSTALL MICROLOOP PROBE SET WITH 500 FOOT LEAD-IN CABLE
8039	4 EACH	INSTALL STEEL POLE AND SINGLE MAST ARM
8048	1 EACH	REMOVE AND DISPOSE OF EXISTING MATERIAL AND EQUIPMENT AS PER ASSIGNMENT
8051	250 L.F.	FURNISH AND INSTALL 3 IN. SCHEDULE 80 RIGID POLYVINYL CHLORIDE ELECTRICAL CONDUIT - TRENCHED
8052	270 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID POLYVINYL CHLORIDE ELECTRICAL CONDUIT - BORED
8053	370 L.F.	FURNISH AND INSTALL 4 IN. SCHEDULE 80 RIGID POLYVINYL CHLORIDE ELECTRICAL CONDUIT - TRENCHED
8057	14 C.Y.	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
8059	100 L.F.	FURNISH AND INSTALL WOOD SIGN SUPPORTS 4 IN. x 6 IN.
8060	420 L.F.	FURNISH AND INSTALL NO. 6 A.W.G. STRANDED BARE COPPER GROUND WIRE
8062	50 L.F.	FURNISH AND INSTALL 1 INCH ELECTRICAL CONDUIT-GALVANIZED SLEEVE
8064	60 L.F.	FURNISH AND INSTALL 3 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
8068	35 L.F.	FURNISH AND INSTALL 1 INCH LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
8070	45 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR NO. 4 A.W.G - THIN/THIN
8072	11 EACH	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8074	78 S.F.	INSTALL GROUND MOUNTED SIGN
8075	53 S.F.	INSTALL OVERHEAD SIGN
8080	5 EACH	FURNISH AND INSTALL GROUND ROD - 3/4 INCH DIAMETER x 10 FOOT LENGTH
8081	650 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (ALUMINUM SHIELDED)
8084	300 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 A.W.G)
8085	1100 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 A.W.G)
8086	450 L.F.	FURNISH AND INSTALL ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 A.W.G) TYPE TC
8087	1650 L.F.	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO. 14 A.W.G.)
8088	780 L.F.	FURNISH AND INSTALL SAW CUT FOR SIGNAL (LOOP DETECTOR)
8091	660 L.F.	FURNISH AND INSTALL TWO INCH DIAMETER POLYVINYL CHLORIDE ELECTRICAL CONDUIT, SCHEDULE 80, TRENCHED
8093	1 EACH	INSTALL CONTROLLER AND CABINET - BASE MOUNT

**WR&A**  
Whitman, Reardon  
and Associates, LLP  
801 South Caroline Street  
Baltimore, Maryland 21231  
(410) 235-3450

**MARYLAND DOT - STATE HIGHWAY ADMINISTRATION**  
*Office of Traffic & Safety*  
**TRAFFIC ENGINEERING DESIGN DIVISION**  
**GENERAL INFORMATION SHEET**  
**CROMWELL BRIDGE ROAD @ I-695 RAMP (INNER LOOP)**

DRAWN BY: B. DONOWAY	F.A.P. NO.	TS NO.	
CHECKED BY: N. LEARY	S.H.A. NO.	4256	SHEET NO.
SCALE: NONE	COUNTY: BALTIMORE	T.I.M.S. NO.	
DATE: 6/20/2003	LOG MILE:	F327	2 OF 2